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#### GEOPHSICAL AND GEOCHEMICAL SUMMARY REPORT

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#### **BLUE GROUSE PROPERTY**

49 59' 22.7"N 127 30' 47.5"W

92 F/13E 92 F/14W

#### BY

## C.C. RENNIE, P.ENG.

### June 30, 2000

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#### **BLUE GROUSE CLAIMS**

#### **GEOPHYSICAL AND GEOCHEMICAL SUMMARY REPORT**

#### **PROPERTY and OPTION**

The Blue Grouse property now comprises two claims , the Blue Grouse and the Blue Grouse # 2 claim.

The Blue Grouse claim is a 20 unit (5N x 4W) modified grid claim staked March 3, 1998 in the name of Joseph Paquette and held in trust for MInLand Resources Inc., a registered partnership of Dan Berkshire, Joseph Paquette and Claude Paquette. The claim staddles the 50th parallel, which is the northern boundary of the old E&N Land Grant, and lies on map sheets 92F/13E and 92K/4E. Surface rights on the southern half are owned by TimberWest while surface rights on the northern half are owned by the Crown, except for the old railroad right of way along the south side of Campbell Lake which is also owned by TimberWest.

The Blue Grouse #2 claim is a 12 unit (4N x 3E) modified grid claim, tenure # 369948, staked in the name of Better Resources Limited on July 5, 1999 adjoining the Blue Grouse claim to the east and having the same common legal post. This claim becomes part of the agreement between MinLand and Better.

Expiry date of the Blue Grouse claim is March 7, 2001 and expiry date of the Blue Grouse #2 claim is July 6, 2000. Acceptance of the assessment work recorded in this report will advance the expiry date to year 2004. A common expiry date has been requested.

By agreement dated January 11, 1999 Better Resources Limited optioned the Blue Grouse claim from Minland by agreeing to pay 50,000 share of Better Resources ( which has received regulatory approval and has been issued) and three annual additional issues of 50,000 Better shares plus performing \$30,000 work the first year, \$50,000 the second, \$80,000 the third and \$140,000 the fourth year for a total of \$300,000 work to earn 100% of the property subject to a 2% NSR royalty to MinLand.

#### **LOCATION and ACCESS**

The legal corner post of the Blue Grouse claim is at 49 59' 22.7"N 125 30" 47.5"W. on the north side of Beavertail Lake, immediately south of the fork in the road. Access to the claim is via the Campbell River to Gold River paved highway No. 28 west for 18 km from Campbell River to TimberWest's camp 8, then by TimberWest private road 5 km west to Beavertail Lake and then by rougher road 2.1 km along the north side of Beavertail Lake to the legal corner post. Access to the showing is 1.5 km along the Reginald Lake road that turns off 1.1 km northwest of the road into the LCP.

Location Plan (fig 1) Claim Plan (Fig 2)



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#### **HISTORY**

The present Blue Grouse claim was staked in 1998 by MinLand Resources as a result of follow-up of library research by Dan Berkshire of Minister of Mines information that recorded a shipment of 20 tons of 12% copper in 1956 from this showing but had little geologic information and no further reports.

The original Blue Grouse claim was held by H. Wheatley who is now eighty years old and lives at Oyster Bay. He reports that he could not interest other companies in the small showing and mined it himself with small equipment. He hand sorted high grade chalcopyrite accompanied by sooty chalcocite that he sacked and shipped to Tacoma. Wheatley does not know of any work in the area by others and does not know of any drilling in the area.

Until 1972 the base metal rights on the E&N Land Grant were held by CPR and its assigned companies which would have further dampened any search for orebodies in the area. Wheatley believed the showing was outside of the E&N Land Grant but a monument on the 50th parallel is just north of the showing.

Other mineral deposits in the area are the Argonaut magnetite mine to the south, Quinsam coal mine to the southeast, Boliden's Myra Falls massive sulphide lead-zinc-copper-gold-silver mine to the west and Cominco's Coast Copper at Port McNeil to the north and BHP's Island Copper further north.

#### **TOPOGRAPHY, GEOMORPHOLOGY and CULTURE**

Elevations range from 1300 feet(400m)at Reginald Lake to 800 feet (250m) at Campbell Lake to the north. Except for the steep walled gully of Reginald Creek and some steep sidehills on the northwest side of the claim the topography is fairly gently north sloping.

The last glaciation was almost directly from west to east as evidenced by striations appearing on the air photos. The intrusive on the southern 500 meters of the claim has been scraped nearly bare but north of this outcrop the air photos suggest overburden to at least 20 meters depth. The mineralized showing is the only outcrop seen in Reginald Creek except for a possible sandstone outcrop on line 17N.

The whole area was clear cut logged and slash burned in the 1930s and has naturally revegetated with Douglas fir predominantly that is now forty years old and ranges from 20cm to 45cm on the butt and 20 to 25 meters tall. Most of the area has been thinned within the last 20 years and where it has been thinned the salal bushes are thick under foot. There is occasional devils club in the wet areas. The timber is mature enough that it will probably be harvested again in the near future.

The entire property is accessible by existing logging roads and old logging trails that can be reclaimed easily. The Elk Falls to Gold River double 32,000 volt transmission lines cut diagonally through the northern part of the property from line 12N on the east to Line 16N on the west. Unfortunately, magnetic readings within 50 meters of the power line are too distorted to be useable.

There is ample water available by syphon from Reginald Lake or Reginald Creek for any drill program.

#### PERMITTING

Since the southern portion of the claim is covered by TimberWest surface rights and since the road accesses are TimberWest roads a road use permit has been obtained from TimberWest. A Notice of Work submitted to the Ministry of Energy and Mines, including a drill program, has been approved, and a \$1000 reclamation bond required by the Ministry of Energy and Mines has been posted.

#### **GENERAL GEOLOGY**

The general geology of Vancouver Island is described in Open File Report 463 of the Geological Survey of Canada by J.E. Muller in 1977. In general, faulted segments of sediments and volcanics ranging in age from the Pennsylvanian-Permian Sicker formation through the Triassic Karmoutsen volcanics, Quatsino limestone and Parson Bay sediments and the Jurassic Bonanza volcanics and sediments have been intruded by the Jurassic Island intrusives. These are overlain by the Cretaceous Nanaimo formation comprising conglomerate, sandstone, shale and clay, now preserved in patches.

#### LOCAL GEOLOGY and MINERALIZATION

Muller's map shows faulted segments of Karmutsen volcanics and Bonanza formation cut by Island intrusives in the claim area, with Nanaimo formation immediately to the east.

Air photos of the area show the intrusive granodiorite outcropping on the north side of Beavertail Lake and extending northwest to Reginald Lake and an outcrop of indeterminant volcanics on the north side of Reginald Lake. North of this outcrop area the claim is covered by glacial till with the only outcrop being the showing itself in Reginald Creek. The depth of the creek incision suggests that overburden could be up to 20 meters deep over the northern area.

A small exposure of sandstone in the east bank of Reginald Creek at creek level suggests that at least part of the northern area could be covered by a thin veneer of Nanaimo formation.

The showing in the old channel of Reginald Creek has been exposed intermittently over an area 20 meters square. An estimated 200 tons was moved to produce the 20 tons of mineral shipped. Reginald Creek was diverted westward around the showing and remains in its new channel.

Rocks exposed in the showing are contorted and faulted limestone, silicified limestone and skarn, believed to be of Bonanza age. At present there is not a lot of mineralization exposed but fragments in the collapsed sorting shed and the dump show massive chalcopyrite with some magnetite. Wheatley reports that when they were mining in 1956 that sooty chalcocite would coat their hands and tools. The presence of secondary copper in a glaciated area suggests that this exposure may be close to the old pre-Cretaceous land surface and may have been protected from glaciation by the Cretaceous conglomerate and sandstone.

West of Reginald Creek there are frequent fragments of silicified sediments containing some fine remnant pyrite, suggesting a silicified aureole around the intrusive.

#### **SURVEY GRID**

A survey grid was established over the central portion of the Blue Grouse claim by compass and hip chain survey with marked cedar pickets at 50 metre intervals along lines spaced 100 metres apart. This grid was tied to surface features and line to line. The grid was computer plotted as an overlay on an air photo of the area. (Figure 3)

#### GEOCHEMISTRY

On the basis of Barry Smee's 1991 evaluation of the orientation surveys over Island Copper, summarized in CIM Special Volume 46, whereby he found that humus sampling provided a better indication of the grade and location of copper than the B-horizon soil samples, Better Resources collected humus samples at 50 meter spacings on east-west lines 100 meters apart from lines 5N to 18N of the LCP. All samples were ashed and analyzed by 30 element ICP by Acme Laboratories in Vancouver. Results have been reviewed by Barry Smee and Associates who had previously commented that any copper results over 60 ppm copper could be considered anomalous. The detailed analyses are attached to this report as Appendix II. The bubble plots for copper and molybdenum prepared by Barry Smee are attached to Appendix II. These show anomalous areas to the west and northeast of the showing. The strongest anomolous area is in the northeast corner of the grid and could be interpreted as being both down slope and down-ice from the known showing and the magnetic anomaly.

#### GEOPHYSICS

An old 1950 500ft ground clearance aeromagnetic survey by Utah Mines indicated a low intensity northwest trending magnetic high in the vicinity of the showing and a low to the west. Later government aeromagnetic surveys at high ground clearance do not contribute to the picture. There is some magnetite at the showing but magnetometer readings over the showing gave only one spot high of 2000 gammas right over mineralization and there were no other strong highs in the vicinity.

On the basis that all the known mineralization at Island Copper was contained within the 400 gamma above background contour, a magnetometer survey using a Geometrics recording G856 magnetometer was carried out at 25 meter reading spacing on the same east-west lines 100 meters apart that controlled the humus sampling. Since the power line cuts diagonally through this grid a 300 meter long section could not be read on lines 12N to 16N. This does not distort the general interpretation. Diurnal effects were corrected by frequent base station checks during each day.

A well defined northwest trending magnetic high occurs on the east side of the claims, removed 500 meters from the interpreted contact with the intrusive. Readings ranged from 55600 gammas to 56500+ gammas with an area 400 meters wide by 1500 meters long within the 56000 gamma contour. The Blue Grouse showing in Reginald Creek lies on the southwest side of this anomaly.



BETTER RESOURCES LIMIT BLUE GROUSE CLAIM GRID OVER AIRPHOTO SCALE 1:10,000 DECEMBER.1999

FIGURE 3

#### **GEOLOGICAL MODELS**

The property was optioned by Better Resources Limited partly because it appears to have been relatively unexplored but mostly because it has geologic similarities to Island Copper. Island Copper's initial showing was a skarn and vein chalcopyrite sub-outcrop to the northwest of the Island Copper porphyry orebody contained in brecciated Bonanza volcanics and sediments intruded by porphyry. The Island Copper deposit was also covered by variable overburden and second growth fir trees and was found by drilling a geochemical anomaly. There is room for an Island Copper size orebody beneath the magnetic anomaly.

The other possible model for this area is the Coast Copper orebody which contained high grade chalcopyrite in skarns. The presence of anomalous lead and zinc and the higher calcium content of the anomalous humus samples could suggest a skarn association.

Since the Island intrusives may have invaded and digested portions of mineralized Myra formation as well as copper-bearing Karmutsen volcanics there could also be some potential for a copper-lead-zinc mineralized breccia zone beneath the magnetic anomaly.

#### PROPOSED WORK PROGRAM

Because the magnetic anomaly trends off the eastern boundary of the Blue Grouse claim Better Resources has undertaken to stake an addition twelve unit block immediately to the east of the Blue Grouse claim in a 4N x 3E configuration with the LCP at the same point as the Blue Grouse LCP.

The indicated depth of overburden plus prohibitive bonds requested by the Ministry of Mines mitigates against any extensive backhoe trenching. A small diamond drill using sites on existing roads or wiggled between trees should provide a preliminary assessment of this prospect. An allowance of 1000 meters of drilling would provide for ten 100 meter holes at a cost of \$80 per meter including assaying and geology, for a drill cost of \$80,000.

An initial budget would be:

Payment of deferred expenses	\$16,000
Drill program	80,000
Supervision and reporting	10,000
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Total preliminary program cost	\$106,000

**BETTER RESOURCES LIMITED** 

Clifford C. Rennie, P.Eng. President/Chairman June 30, 2000

#### **APPENDIX I**

#### STATEMENT OF QUALIFICATIONS

I, Clifford C. Rennie, P.Eng. of 2118 Carmen Road, Nanaimo, B.C. hereby state that:

- (1) I am a graduate of the Faculty of Applied Science at the University of British Columbia with a Bachelor in Geological Engineering in 1953.
- (2) I am a continuous Member of the Association of Professional Engineers and Geoscientists since 1955, certificate #2638.
- (3) I have practised my profession as a geologist in Canada, USA, South America and Australia since 1950.
- (4) I have personally worked on several skarn and porphyry copper deposits.
- (5) I personally supervised the survey grid and geochemical sampling and personally carried out the magnetometer survey.
- (6) I am an officer of Better Resources Limited and hold direct and indirect interest in the shares of the company. This interest does not interfere with my professional opinion of this property.

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Clifford C. Rennie, P.Eng.

June30, 2000

#### **APPENDIX II**

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#### **GEOCHEMICAL ANALYSES**

The attached geochemical analyses by Acme Analytical Laboratory are from Lines 05 to 18 on humus samples taken at 50 meter spacings on lines 100 meters apart.

The bubble plots of the geochemical results were prepared by Barry Smee and Associates.

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> BETTER RESOURCES LIMITED BLUE GROUSE CLAIM GROUND MAGNETICS SCALE 1:10,000 DECEMBER,1999

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# SCALE: 1:5000

LINE SPACING 100M READING SPACING 25M

HAND PLOTTED AND HAND CONTOURED

## **CONTOUR INTERVAL 100 GAMMAS**

READINGS PLOTTED WITH 50,000 GAMMAS DEDUCTED

SURVEY AND PLOTTING BY C. C. RENNIE MAY-JUNE '99

**INSTRUMENTATION : GEOMETRICS PROTON PRECESSION MODEL G-856 MAGNETOMETER** 

BASE LINE IS EAST BOUNDARY OF BLUE GROUSE 1 LINES ARE NUMBERED BY 100M NORTH OF LCP

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L-1200 N	Profile Base: 56,000 nT (gammas) Note: 55,000 nT (gammas) has been deducted from each posted value	
L-1100 N	Trend Enhancement: None	
L-1000 N	Field Work: Better Resources Limited Data Reduction: Geotronics Surveys Ltd.	
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	GEOTRONICS SURVEYS LTD.	
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L-500 N	BLUE GROUSE CLAIM REGINALD LAKE, CAMPBELL RIVER AREA Nanaimo M.D., Vancouver Island, B.C.,	
	MAGNETIC SURVEY SURVEY PLAN – PROFILE	
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